

## **CLAIMS**

### **WHAT IS CLAIMED IS:**

1. A method for pre-cure application of an annular antenna assembly to a tire comprising the steps:
  - forming within a rigid core defining an interior surface of the tire a core recess complementarily configured to the annular antenna assembly;
  - positioning the annular antenna assembly within the core recess;
  - building an uncured carcass of the tire around the rigid core entrapping the annular antenna assembly within the core recess;
  - cross-bonding the annular antenna assembly to the inner surface of the tire during a cure cycle;
  - removing the cured tire and annular antenna assembly from the rigid core.
2. A method according to claim 1 further comprising the step of sizing the annular antenna assembly to protrude a distance beyond an outward surface of the rigid core while positioned within the core recess.
3. A method according to claim 1 further comprising the step of assembling the annular antenna assembly on the rigid core.
4. A method according to claim 1 further comprising the step of pre-assembling the annular antenna assembly prior to positioning the annular antenna assembly within the core recess.
5. A method according to claim 1 further comprising the step of forming a socket within a portion of the core recess configured to receive a sensor housing component of the antenna assembly.
6. In a mold for molding and vulcanizing a rubber tire of the type comprising a removable rigid core on which the tire is built, the improvement comprising:

a core recess formed within an outer surface region of the rigid core complementarily configured for receipt of an annular antenna assembly therein, the core recess having sides that at least partially enclose and protect the antenna assembly during a tire cure cycle.

7. A mold according to claim 6 wherein the core recess is dimensioned to facilitate a protrusion of the annular antenna assembly a distance beyond an outward surface of the rigid core while positioned within the core recess.

8. A mold according to claim 6 further comprising a socket within a portion of the core recess configured to receive a sensor housing component of the antenna assembly.

9. A tire having an annular antenna assembly affixed to an inward surface, the tire being formed by a process comprising the steps:

forming within a rigid core defining an interior surface of the tire a core recess complementarily configured to the annular antenna assembly;

positioning the annular antenna assembly within the core recess;

building an uncured carcass of the tire around the rigid core entrapping the annular antenna assembly within the core recess;

cross-bonding the annular antenna assembly to the inner surface of the tire during a cure cycle;

removing the cured tire and annular antenna assembly from the rigid core.

10. A method according to claim 9 further comprising the step of sizing the annular antenna assembly to protrude a distance beyond an outward surface of the rigid core while positioned within the core recess.

11. A method according to claim 9 further comprising the step of assembling the annular antenna assembly on the rigid core.

12. A method according to claim 9 further comprising the step of pre-assembling the annular antenna assembly prior to positioning the annular antenna assembly within the core recess.

13. A method according to claim 9 further comprising the step of forming a socket within a portion of the core recess configured to receive a sensor housing component of the antenna assembly.